### COLORADO RIVER RECOVERY PROGRAM FY 2012 ANNUAL PROJECT REPORT

# RECOVERY PROGRAM PROJECT NUMBER: FR-BWsynth

- I. Project Title: Historical assessment of factors affecting young Colorado pikeminnow abundance and physical habitat availability in the Green River, Utah.
- II. Bureau of Reclamation Agreement Number(s): Colorado State University GRANT AGREEMENT NO. 09-FG-40-2900

Project/Grant Period: Start date (Mo/Day/Yr): 1 October 2009

End date: (Mo/Day/Yr): 30 September 2014

Reporting period end date (Mo/Day/Yr): 30 September 2012

Is this the final report? Yes \_\_\_\_\_ No \_\_X\_\_\_

III. Principal Investigator(s):

Lead Agencies: Larval Fish Laboratory, CSU and Argonne National Laboratory

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IV. Abstract: The Green River Study Plan recommends research to evaluate the effect of base flow variability on backwater habitat maintenance and quality. Responsive to that recommendation, this proposed study will begin as a synthesis of physical and biological information already collected in Reaches 2 and 3, including evaluating potential links between physical habitat data and abundance dynamics of age-0 Colorado pikeminnow. This work will assist with evaluation of studies that aim to obtain a better understanding of how base flows and base flow variability affect backwater maintenance and quality in Reaches 2 and 3. Progress has been made toward completion of the project and a final report is expected in Spring 2013.

V. Study Schedule: Initial Year 2009 Final year 2013

# VI. Relationship to RIPRAP:

Green River, I.D.1.e.(4) Integrate biological and physical data on backwaters.

VII. Accomplishment of FY 2012 Tasks and Deliverables, Discussion of Initial Findings and Shortcomings: Shortly after initiation of this project, errors or missing data were discovered in the dataset that described the historical abundance of fishes in backwaters of the Green River. Additionally, some data from the lower Green River may have been lost, but the extent of that was unknown.

On October 21, 2009 the principal investigators and Recovery Program office held a conference call to discuss this setback. We jointly decided that the biological and geomorphic aspects of this study need to proceed concurrently, because the analyses are interrelated. Therefore we agreed that until a reliable dataset is available all work on this project would be postponed. Analysis on the pikeminnow data from the lower Green River was also delayed because of file incompatibilities. After obtaining the final dataset, work was delayed due to other commitments. At present, the age-0 pikeminnow dynamics analysis for middle and lower Green River is largely completed, except one of us (KRB) is incorporating 2011 sampling data into the analysis. This will improve the scope and depth of the data and add to inferences that are possible with this data analysis.

- VIII. Recommendations: Because of delays in obtaining the historical data and file errors, and more recently, the busy schedules of principal investigators, this work is behind the original schedule but is proceeding. A new draft report due date is 31 March 2013.
- IX. Project Status: Reinitiated after data files were received in good order. Behind schedule but proceeding.
- X. FY 2012 Budget Status
  - A. Funds Provided: \$72,590, funds were provided in previous fiscal years.
  - B. Funds Expended: \$56,509
  - C. Difference: \$16.081
  - D. Percent of the FY 2012 work completed, and projected costs to complete: About 75% of the work has been completed, budget is sufficient to finish the project.
  - E. Recovery Program funds spent for publication charges: 0
- XI. Status of Data Submission (Where applicable): NA

XII.	Signed:	Kevin R. Bestgen	10 Nov. 2012	
		Principal Investigator (CSU-LFL)	Date	
		John W. Hayse	10 Nov. 2012	
		Principal Investigator (Argonne)	Date	

APPENDIX: E.g., more comprehensive/final project reports (NOT to be used in place of a complete annual report.). If distributed previously, simply reference the document or report.

#### ANNUAL PERFORMANCE PROGRESS REPORT (PPR)

BUREAU OF RECLAMATION AGREEMENT NUMBER: <u>09-FG-40-2900</u> UPPER COLORADO RIVER RECOVERY PROGRAM PROJECT NUMBER: <u>FR-BW synth</u>

Project Title: Historical assessment of factors affecting young Colorado pikeminnow abundance and physical habitat availability in the Green River, Utah.

Principal Investigator:

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Is this the final report? Yes \_\_\_\_\_ No \_X\_\_\_

Performance: The Green River Study Plan recommends research to evaluate the effect of base flow variability on backwater habitat maintenance and quality. Responsive to that recommendation, this proposed study will begin as a synthesis of physical and biological information already collected in Reaches 2 and 3, including evaluating potential links between physical habitat data and abundance dynamics of age-0 Colorado pikeminnow. This work will assist with evaluation of studies that aim to obtain a better understanding of how base flows and base flow variability affect backwater maintenance and quality in Reaches 2 and 3. Biological data, including capture rates of drifting Colorado pikeminnow and abundance of juveniles in autumn captured in backwaters, has been assembled and partially analyzed. I anticipate a draft report ready for review in spring 2013.

#### ANNUAL PERFORMANCE PROGRESS REPORT (PPR)

## BUREAU OF RECLAMATION AGREEMENT NUMBER: <u>08-AA-40-2807</u> UPPER COLORADO RIVER RECOVERY PROGRAM PROJECT NUMBER: FR-BW-SYNTH

Project Title: Historical assessment of factors affecting young Colorado pikeminnow abundance and physical habitat availability in the Green River, Utah.

Principal Investigator:

John Hayse Environmental Science Division Argonne National Laboratory 9700 South Cass Avenue Argonne, IL 60439

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Project/Grant Period: Start date (Mo/Day/Yr): 1 October 2009

End date: (Mo/Day/Yr): 30 September 2014

Reporting period end date (Mo/Day/Yr): 30 September 2012

Is this the final report? Yes \_\_\_\_\_ No \_X\_\_\_

Performance: The Green River Study Plan recommends research to evaluate the effect of base flow variability on backwater habitat maintenance and quality. Responsive to that recommendation, this proposed study will begin as a synthesis of physical and biological information already collected in Reaches 2 and 3, including evaluating potential links between physical habitat data and abundance dynamics of age-0 Colorado pikeminnow. This work will assist with evaluation of studies that aim to obtain a better understanding of how base flows and base flow variability affect backwater maintenance and quality in Reaches 2 and 3. Information collected during annual topographic surveys of backwater habitats in Reach 2 of the Green River since 2003, has been assembled and partially analyzed. The relationships between flow and physical backwater conditions will be evaluated together with the biological information identified above (i.e., capture rates of drifting Colorado pikeminnow and abundance of juveniles in autumn captured in backwaters) to evaluate potential linkages between the physical conditions and recruitment. I anticipate a draft report ready for review in spring 2013.